EDITORIAL INDEX

Listed by subject are all articles appearing in *MICROWAVE SYSTEMS NEWS & COMMUNICATIONS TECHNOLOGY*, Volume 15, January through December 1985. The key provides information on article type and/or magazine section. Copies of articles are available at $3 each. Contact: Reprints, *Microwave Systems News & Communications Technology*, 1170 East Meadow Drive, Palo Alto, CA 94303; Telephone (415) 494-2800.

(AV) — Another Viewpoint
(BI) — Business Insights
(CN) — Communication News
(CF) — Cover Feature
(EU) — Euroform
(I) — Intelligencer
(IR) — International Report
(J) — Jobs
(LN) — Late Breaking News
(OP) — Opinion
(PF) — Product Feature
(SF) — Special Feature
(TA) — Technical Article
(TF) — Technology Forecast
(VE) — The View From Europe
(WW) — Washington Window

Amplifiers

Broadband Gain Package Addresses Needs of Systems Designers (CF), April, p. 68

Feedback Mapping Applied to the GOES RF Amplifier (TA), May, p. 145

Ku-Band Power FET Amplifiers Use Flip-Chip FET Devices (TA), July, p. 75

AEL Gets Awards Totaling $16.1 Million (LN), August, p. 20

New Microwave Firm Makes FETs and Amplifiers (BI), August, p. 33

Wideband Ultralow-Noise Amplifiers Eliminate Isolator Requirement (CF), August, p. 70

E-Systems Receives MILSTAR Contract (BI), October, p. 35

Log Amplifiers Solve Dynamic-Range and Rapid-Pulse-Response Problems (TA), October, p. 99

FET LNAs Designed for Advanced EHF Systems (CF), December, p. 70

Antennas

Antenna Makes Enemy's Detection of Radar Difficult (WW), January, p. 43

Court Affirms FCC Antenna Ruling (LN), January, p. 22

Technology Advances Air Traffic Control Communication Equipment (EU), February, p. 130A

Use of HAAT Computer-Generated Data Accepted (WW), February, p. 41

Antenna Measurements: An Exciting Technology (OP), March, p. 62

Spherical Near-Field Antenna Measurements Improve Through Expanded Software Features (CF), March, p. 64

Reflector Antennas Assessed for Satellite System Design (TA), March, p. 85

Microwave Antenna Systems Advanced Through Plastics Technology (TA), April, p. 93

Hybrid Design Proves Effective for Flat Millimeter-Wave Antennas (TA), June, p. 123

NASA Awards Contract to SSE (BI), June, p. 33

Litton Develops HF/VHF Power Bank (CN), August, p. 30

ASC Awarded Satellite Data-Network Contract (CN), October, p. 32

E-Systems to Provide NAVSTAR Subsystem (LN), October, p. 20

Metl..d Permits Gain Estimation for Very-Wide-Beam, Satellite-Terminal Antennas (CT), October, p. 83

Radiation Systems to Supply Earth-Station Antennas (CN), October, p. 30

NBS Upgrades Lab, Issues Report on Antennas (WW), November, p.43

Avionics

Honeywell Military Avionics to Supply Radar Altimeter (WW), January, p. 44

Second-Generation Vortac Equipment Has Remote Maintenance and Monitoring Capabilities (EU), January, p. 144A

TCAS-II Airborne Collision Avoidance Systems Underway (WW), January, p. 43

Technology vs. Operational Technology (TF), January, p. 63

First JTIDS Class 2 Terminal Delivered to Air Force (WW), February, p. 41

MLRS Contact Awarded to MDIT (IR), February, p. 46

DPS Technique Continues Progress for Precision DME (EU), July, p. 82A

Republic Wins Contract for MLS Support Equipment (WW), July, p. 38

AEL Gets Awards Totaling $16.1 Million (LN), August, p. 20

Ferranti Supplies ATE to RAF (IR), August, p. 47

Rockwell and Mitre to Demonstrate Satellite Data-Link Communications (CN), August, p. 30

Sanders Receives $2.6 Million Subcontract (WW), August, p. 41

Computer Sciences Begins FAA Subcontract Negotiations (WW), September, p. 45

E-Systems Awarded $12 Million Follow-on Contract (WW), September, p. 46

Swiss Select Northrop Jammer (IR), September, p. 49

Integrated Single-Sideband Modulators Implemented on Soft Substrates (TA), September, p. 81

ASPJ Makes First Flight for Navy (LN), October, p. 23

Interstate Electronics Awarded GPS Contract (WW), October, p. 48

Kenya Buys Air-Traffic System (IR), October, p. 51

Litton to Produce Threat-Warning Systems (WW), October, p. 47

New Air Defense for Malaysia (IR), October, p. 51

Traditional Civil Navigation Systems Continue in Use (EU), October, p. 80A

USAF Awards Radio Processor Contract (LN), November, p. 19

Australian Airline Buys U.S. Radar (IR), December, p. 51

E-Systems Receives USAF Contract (LN), December, p. 19

ITT-Hughes JTIDS Plans Canceled (WW), December, p. 48

New-Generation Navigation Aids Use Digital Techniques to Enhance Performance (EU), December, p. 80A

Communication

Agreement Reached For SatCom Network (BI), January, p. 35

COMSAT to Build Earth Station If FCC Gives OK (WW), January, p.44

DOD Security Devices Contract Given to Harris (CN), January, p. 30

ECT Cellular Sides With Racal Vodafone (VE), January, p. 46

Far-East MilCom Market Exhibits Rapid Growth (BI), January, p. 35

ITT Signs Protocol With Yugoslavs (VE), January, p. 46

Radio Communications System Delivered to Air Force (CN), January, p. 30

Sundstrand Acquires Communications Producer (BI), January, p. 35

Surface-Mounted MICs and MMICs Play Vital Role in Military Communications (CF), January, p. 72

Agreement for Satellite Communications Announced (CN), February, p. 30

AT&T Communications Increases Speed of Transmission Systems (CN), February, p. 30

Boeing Computer Services to Install, Operate $200 Million NASA Network (WW), February, p. 41

Earth Station Ownership Shares Reallocated (WW), February, p. 41

England Installs First Cellular System (BI), February, p. 36

FCC Orbital Spacing Committee in Offing (LN), February, p. 22

ISACOMM, Inc. Gets U.S./Canadian Digital Link (WW), February, p. 41

Northern Telecom Receives $11 Million Microwave Radio Systems Contract (CN), 30

Office Links Spur Non-Telecom Fiber Optics; $404 M European Market by 1988 (WW), February, p. 43

Police Go Digital With Ericsson (IR), February, p. 46

Technology Advances Air Traffic Control Communications Equipment (EU), February, p. 130A

Air-to-Ground Telephone System Denied by FCC (WW), March, p. 43

Joint Venture Targets Federal Communications (BI), March, p. 35

Manufacturer Supplies Microwave Radios (BI), March, p. 35

NPRM Seeks Mobile Satellite Service for Rural Areas (CN), March, p. 30

SBS Signs Agreement for Japan Service (LN), March, p. 19

Virginia Accesses MCI Microwave Towers (WW), March, p. 43

COMSAT Requests Two Teleport Earth Stations (IR), April, p. 46

Dielectric Awarded Contracts by NAVALEX, Westinghouse-Baltimore (CN), April, p. 30

FCC Abolishes Satellite Procurement Rules, Revises Computer II (WW), April, p. 45

General Optronics Installs Atmospheric Laser Link (CN), April, p. 30

Microwave Antenna Systems Advanced Through Plastics Technology (TA), April, p. 93

Programmable RF Signal Processors Demonstrated for Spread-Spectrum Communication Systems (TA), April, p. 76

SBS Buys New Hughes Satellite for Launch in 1987 (CN), April, p. 30

FCC Uses RF Radiation Guide (WW), May, p. 45

Feedback Mapping Applied to the GOES RF Amplifier (TA), May, p. 145

Land Mobile Radios Connect With Switched Telephones (WW), May, p. 45

New York INTELSAT IBS Station to Be Built (CN), May, p. 30

PanAmSat Files Complaint With FCC (CN), May, p. 30

Cellular Purchase Agreement Signed (BI), June, p. 33

FCC Deliberates on Mobile Satellite Service (CN), June, p. 30

Mobile Cellular Systems Conserve Frequency Resources (TA), June, p. 139

TVRO: A Force for Advancement and Change (AV), June, p. 55

Bell Labs De-emphasizes Satellite Communications (BI), July, p. 31

Houston Teleport Licensed as International Earth Station (CN), July, p. 28

Ku-Band Power FET Amplifiers Use Flip-Chip FET Devices (TA), July, p. 75

SBS Expands Skyline Services to Orlando (CN), July, p. 28

SBS Provides Services to Australia, Singapore (IR), July, p. 43

SSC to Install NASA Network Stations (CN), July, p. 28

Tempest Approval Granted to Codenoll Transceiver (CN), July, p. 28

Cincinnati Electronics Awarded $9.2 Million (WW), August, p. 42

EnCom Awarded Earth-Station Contract (LN), August, p. 19

GTE System Completes U.S. Navy Test (LN), August, p. 20

ITT Upgrades Fiber-Optic System (LN), August, p. 20

Loral Unit to Supply Microwave Sources (WW), August, p. 41

Marconi Aids Network Expansion (IR), August, p. 47

Pricing Breakthrough Benefits Smaller Corporations and Businesses (CN), August, p. 30

Radio Channel Procedures Changed (LN), August, p. 19

Rockwell and Mitre to Demonstrate Satellite Data-Link Communication (CN), August, p. 30

SBS Expands Domestic Access and Provides One-Way Video Networks (CN), August, p. 30

Two-Way Satellite-Communications System Is Versatile (PF), August, p. 182

USIA Meets Transmission Deadline (IR), August, p. 47

Anadigics Announces GaAs IC Strategy (LN), September, p. 23

Algeria Buys Voice Equipment (IR), September, p. 50

CITCOM to Digitalize Analog Cable in Long-Distance Network (CN), September, p. 30

Companies to Bid on Warning System (IR), September, p. 50

COMSAT and TRT Inaugurate New York Teleport Earth Station (CN), September, p. 32

GaAs Impact on Silicon Forecast (LN), September, p. 20

INMARSAT to Close Pacific Ocean Gap (LN), September, p. 19

Merger and Acquisition Activity Down in Communications Industry (CN), September, p. 30

Modulation Associates Receives Orders from Kavouras and Hubbard (CN), September, p. 30

Scientific-Atlanta Sells Uplink Equipment to Turner Broadcasting (CN), September, p. 32

Teleport Licensed, Provides Service to Space Center (CN), September, p. 32

Alinet, Lexitel to Combine Companies (BI), October, p. 35

ASC Awarded Satellite Data-Network Contract (CN), October, p. 32

AT&T Receives Modernization Contract (CN), October, p. 32

California Microwave Gets Earth Station Award (LN), October, p. 19

Harris Awarded Anti-Jam System Contract (BI), October, p. 35

INMARSAT Reduces Charges (IR), October, p. 52

MCS to Develop Channel Simulator (IR), October, p. 52

Radiation Systems to Supply Earth-Station Antennas (CN), October, p. 30

Two Contracts Go to Northern Telecom and GE (CN), October, p. 30

Westar VI-S Approved for Orbiting (LN), October, p. 23

W. German Firm to Make TDMAs (IR), October, p. 52

Wold Adds Weather and Information Network (CN), October, p. 30

ANT/TRC-170 Contract Awarded (WW), November, p. 44

B-MAC Technology to Be Used in Business and Satellite Networks (CN), November, p. 30

Cellular One and Ericsson Go On-Line in Detroit (CN), November, p. 32

Cellular Radio Termed "Interim" Technology (BI), November, p. 35

Digital Receives "Short-Haul" Transmission Products Contract (CN), November, p.32

EnCom to Build IBSS Earth Station (CN), November, p. 32

FCC Simplifies Licensing Procedures (WW), November, p. 43

Federal Express Awards Satellite Network Contract (CN), November, p. 30

Lower-Cost Interstate T-1 Service Introduced in Northeast (CN), November, p. 30

Permit Granted for Gulf Cellular Radio Telephone System (WW), November, p. 44

Sask Power to Use Satellite System (IR), November, p. 47

System 9 Chosen for MultiComm Data Service (CN), November, p. 32

Wideband Klystron Amplifier Is Suitable for Digital Satellite Communications (TA), November, p. 93

Datron Systems Buys Communications Firm (BI), December, p. 35

E-Systems Receives USAF Contract (LN), December, p. 19

GE Develops HEMTs for Radar and Satellite Communications (CN), December, p. 30

Houston Teleport Transmits to West Germany (CN), December, p. 30

ITT-Hughes JTIDS Plans Canceled (WW), December, p. 48

MSE Award Goes to GTE and Thomson-CSF (BI), December, p. 35

Two MW and Satellite Transmission Contracts Awarded (CN), December, p. 30

Virtual Software-Defined PTNs to Grow (CN), December, p. 32

Components & Devices

CAD Techniques Improve Microwave Switch Design Efficiency (TA), January, p. 113

Microwave Frequency Counters Built Around GaAs Sampler (PF), January, p. 151

Surface-Mounted MICs and MMICs Play Vital Role in Military Communications (CF), January, p. 72

Device and Subsystem Capability Emerging from Mm-Wave Technology (TF), March, p. 59

RF Frequencies Face Many of Microwave's Challenges (SF), March, p. 107

GaAlAs 11-GHz Window Laser Operates at Room Temperature (TA), April, p. 108

Transfer Switch Has Built-in SWR Detection Circuit (PF), June, p. 161

Isoplanar Schottky Design Technique Permits Durability Without Performance Sacrifice (CF), July, p. 64

Ku-Band Power FET Amplifiers Use Flip-Chip FET Devices (TA), July, p. 75

Procurement Trends Assessed for GaAs MMICs (TF), July, p. 55

The Future of MICs (AV), July, p. 48

VLSI Promises Advancement for Wave Digital Filters (TA), July, p. 83

Air Force Looks to Microwave Industry (LN), August, p. 19

Anadigics Gets $9.7 Million (BI), August, p. 33

Center Studies Defense Industrial Base (WW), August, p. 42

New Microwave Firm Makes FETs and Amplifiers (BI), August, p. 83

Surface-Mounted Mixers Offer Significant Advantages (PF), August, p. 176

GaAs Impact on Silicon Forecast (LN), September, p. 20

ITC/USA/'85 (SF), September, p. 127

MIC and MMIC Packaging Innovations Continue to Develop (TA), September, p. 100

Microwave Packaging Evolves to Meet Design and Market Challenges (TA), September, p. 94

Millimeter-Wave Components—When? (TF), September, p. 61

Mixers: Different Packaging Gives Price/Performance Trade-offs (TA), September, p. 113

Second-Sourcing Agreement Formalized (LN), September, p. 19

Signal Tech Requires KW Engineering (LN), September, p. 20

Switch Drives Fit Microwave Switches of All Sizes (PF), September, p. 137

Cominco Announces GaAs Wafer Expansion (BI), October, p. 35

Lockheed to Make Hybrid Microcircuits (LN), October, p. 19

Log Amplifiers Solve Dynamic-Range and Rapid-Pulse-Response Problems (TA), October, p. 99

Rugged Mixer Family Now Covers Expanded Frequencies (PF), October, p. 145

TRW Granted Preliminary Injunction (LN), October, p. 19

Ultrasmall MIC Mixer Designed for ECM Applications (CF), October, p. 70

GaAs MMICs—The Solution for Phased Arrays? (AV), November, p. 54

Temperature Effects Examined for Microwave Power-Transistor Performance and Thermal Design Considerations (CF), November, p. 66

Virtech Gets Injunction Modification (LN), November, p. 19

Voltage-Controlled Oscillators Evaluated for System Design (TA), November, p. 102

Wideband Klystron Amplifier is Suitable for Digital Satellite Communications (TA), November, p. 93

Low-Noise HEMT is Commercially Available (LN), December, p. 20

Computers, Microprocessors & Software

CAD Techniques Improve Microwave Switch Design Efficiency (TA), January, p. 113

Computer Exposition Announced for Europe (VE), January, p. 46

Desktop CAD Software Designs, Analyzes and Optimizes Circuits (PF), January, p. 155

Boeing Computer Services to Install, Operate $200 Million NASA Network (WW), February, p. 41

Firmware Innovation Enhances Performance of Microwave Counters (TA), February, p. 99

Use of HAAT Computer-Generated Data Accepted (WW), February, p. 41

Spherical Near-Field Antenna Measurements Improve Through Expanded Software Features (CF), March, p. 64

Software Provides Additional Time-Domain Analysis Capabilities (PF), April, p. 116

SUPER-COMPACT Enhancements Feature Time-Domain Optimization (PF), April, p. 112

CAD Packages Improve Circuit-Optimization Methods (TA), May, p. 117

TRW to Develop First VHSIC 1750A Computer (WW), July, p. 37

TSCS to Bid for UKAIR CCIS (IR), August, p. 48

Computer Sciences Begins FAA Subcontract Negotiations (WW), September, p. 45

Group to Support Compact's Product Line (BI), September, p. 34

ITC Affirms Tandon Patent Ruling (WW), October, p. 47

Models and Nonlinearities: Major Factors in Microwave CAD Software (Part I) (TA), October, p. 123

CCC Buys Compact Software (LN), November, p. 19

Models and Nonlinearities: Major Factors in Microwave CAD Software (Part II) (TA), November, p. 127

PRC Wins Intelligence Contract (WW), December, p. 47

Virtual Software-Designed PTNs to Grow (CN), December, p. 32

Millimeter-Wave HARMONIC MIXERS

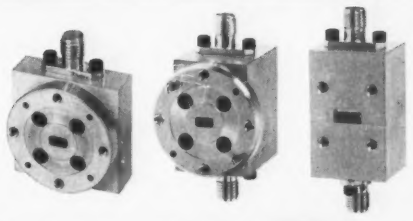
Harmonic Mixers allow down-conversion of millimeter-wave signals using Local Oscillator frequencies which are a sub-harmonic of the input frequency often reducing local oscillator costs by a factor of ten or more.

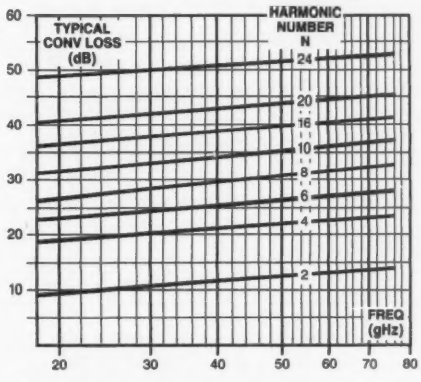
IF outputs extend to DC allowing all models to be used as Phase Detectors in Phase-Lock applications.

Three-port models have separate RF, LO and IF ports. Two-port models require LO/IF diplexing as is commonly done in Spectrum Analyzers, Frequency Counters and Multi-Octave Band Receivers.

Input Freq. (gHz)	2-Port Model No.	3-Port[1] Model No.	LO Freq. (gHz)[2]	IF Freq. (gHz)[2]
18-26.5	NX42-1	NM42-Fo	.5-13	DC-2
26-40	NX28-1	NM28-Fo	1-20	DC-4
33-50	NX22-1	NM22-Fo	1-25	DC-6
40-60	NX19-1	NM19-Fo	1-30	DC-8
50-75	NX15-1	NM15-Fo	1-37.5	DC-10

[1]Fo designates Frequency of optimization.
[2]Specify IF and LO frequencies.





Write for literature on millimeter-wave multipliers, mixers and complete front ends.

SPACEK LABS, Inc.
Millimeter Wave Technology
210 East Cota Street
Santa Barbara, CA 93101
(805) 564-4404, TLX 658340

Circle Reader Service No. 69

Countermeasures

Antenna Makes Enemy's Detection of Radar Difficult (WW), January, p. 43

GTE Wins Submarine Microwave Receiving Systems Award (CN), January, p. 30

Technology vs. Operational Technology (TF), January, p. 63

First JTIDS Class 2 Terminal Delivered to Air Force (WW), February, p. 41

Loral Receives USAF RWR Contract (LN), February, p. 19

Gould Acquires 3DBM Electronics (LN), March, p. 19

New Unit Addresses Tactical Military Market (BI), March, p. 35

Broadband Gain Package Addresses Needs of System Designers (CF), April, p. 68

Ultra-Wideband IFM Receiver Fulfills Design Requirements (TA), April, p. 105

Electronic-Warfare Requirements Drive Microwave Markets and Technology (SF), June, p. 83

DDLs Perform Vital Signal-Processing Role (TA), July, p. 99

Ku-Band Power FET Amplifiers Use Flip-Chip FET Devices (TA), July, p. 75

Advanced Technologies Play Key Role in Designing Future EW Systems (CF), September, p. 66

Do We Need MIL-SPEC Pencils? (OP), September, p. 65

France Supports Eureka Program (IR), September, p. 50

Integrated Single-Sideband Modulators Implemented on Soft Substrates (TA), September, p. 81

Swiss Select Northrop Jammer (IR), September, p. 49

ASPJ Makes First Flight for Navy (LN), October, p. 23

Harris Awarded Anti-Jam System Contract (BI), October, p. 35

Harris Receives Architecture-Development Contract (WW), October, p. 47

Ultrasmall MIC Mixer Designed for ECM Applications (CF), October, p. 70

$8.5-Million Contract Goes to W-J (LN), October, p. 19

Orders for J-STARS Program Go to Aydin (WW), November, p. 43

Checksite Tests ECM Performance (IR), December, p. 51

Gould Establishes New Defense Units (BI), December, p. 35

ITT-Hughes JTIDS Plans Canceled (WW), December, p. 48

Design

CAD Techniques Improve Microwave Switch Design Efficiency (TA), January, p. 113

Desktop CAD Software Designs, Analyzes and Optimizes Circuits (PF), January, p.155

Frequency Conversion System Designed for EHF Digital Satcom (PF), January, p. 149

Innovations in Chip Design Presented at ISSCC '85 (SF), January, p. 86

Firmware Innovation Enhances Performance of Microwave Counters (TA), February, p. 99

Resistor Technology Assessed at Microwave Frequencies (TA), February, p. 106

Reflector Antennas Assessed for Satellite System Design (TA), March, p. 85

Broadband Gain Package Addresses Needs of Systems Designers (CF), April, p. 68

Microwave Antenna Systems Advanced Through Plastics Technology (TA), April, p. 93

Ultra-Wideband IFM Receiver Fulfills Design Requirements (TA), April, p. 105

CAD Packages Improve Circuit-Optimization Methods (TA), May, p. 117

Designers' Needs Increase Availability of Mm-Wave Instrumentation (CF), May, p. 64

Developments Continue in Millimeter-Wave Gunn Oscillators (TA), p. 139

High-Power Electron Tubes Designed for Modern Microwave Systems (CF), June, p. 68

Hybrid Design Proves Effective for Flat Millimeter-Wave Antennas (TA), June, p. 123

Millimeter-Wave System Designs Implemented Using "Domino" Concept (TA), June, p. 151

Isoplanar Schottky Design Technique Permits Durability Without Performance Sacrifice (CF), July, p. 64

Design State-of-the-Art Assessed at RF Frequencies (TA), August, p. 79

SIGNAL PROCESSING SUPERCOMPONENTS

DA SERIES DIGITALLY CONTROLLED ATTENUATORS

- Decade Bandwidths to 6 GHZ, 10%—30% to 18 GHZ
- High Speed—20 nsec (50% TTL to 10% or 90% RF)
- High Attenuation—120 dB
- MIL STD-883
- Phase Free Option—Phase Shift vs Attenuator Setting, Phase Variation vs. Freq., Group Delay (Consult Factory)

DP SERIES DIGITALLY CONTROLLED PHASE SHIFTERS

- Bandwidth—Octave to 5 GHZ, 10%—20% to 18 GHZ
- Phase Shift—360°
- LSB—2°
- Switching Speed—20 nsec
- Advanced Low Loss Design
- Constant Time Delay Phase Shifters, Freq. Translators and Multioctave Biphase Modulators

SUPERCOMP also Designs and Manufactures Miniature Hermetically Sealed Switches, Analog Attenuators and Phase Shifters, Levelers, Hybrid Networks, Power Dividers, Directional Couplers, Duplexers, Limiters, Custom Assemblies and more. Full Screening to **MIL STD-883** Available on Request.

Call or Send Your Specification to:

SUPERCOMP
Division of
PREMIER MICROWAVE CORPORATION
33 New Broad St., Port Chester, NY 10573
PHONE (914) 939-8900/TWX: 710-569-1609
A Subsidiary of Comtech, Inc.

Circle Reader Service No. 70

Dielectric-Resonator Design Shrinks Satellite Filters and Resonators (TA), August, p. 97

Bechtel and Varian Team on Fab Plant (LN), September, p. 19

EEsof to Provide Filter Programs (BI), September, p. 34

Integrated Single-Sideband Modulators Implemented on Soft Substrates (TA), September, p. 81

Microwave Packaging Evolves to Meet Design and Market Challenges (TA), September, p. 94

Mixers: Different Packaging Gives Price/Performance Trade-offs (TA), September, p. 113

Techniques Examined for Gimbal-Angle Measurement (TA), September, p. 119

Models and Nonlinearities: Major factors in Microwave CAD Software (Part I) (TA), October, p. 123

DME RF Subsystems Use Advanced Design Techniques (EU), November, p. 112A

GaAs MMIC System and Subsystem Applications Require Special Design Considerations (TA), November, p. 79

Models and Nonlinearities: Major factors in Microwave CAD Software (Part II) (TA), November, p. 127

Temperature Effects Examined for Microwave Power-Transistor Performance and Thermal Design Considerations (CF), November, p. 66

Voltage-Controlled Oscillators Evaluated for System Design (TA), November, p. 102

FET LNAs Designed for Advanced EHF Systems (CF), December, p. 70

IF Commutation Increases Monopulse Radar Accuracy (TA), December, p. 91

Fiber Optics

Fiber-Optic Venture Launched in S. Carolina (BI), February, p. 36

Office Links Spur Non-Telecom Fiber Optics; $404 M European Market by 1988 (WW), February, p. 43

OPTO '85 is Ready to GO (VE), February, p. 44

Optical-Waveguide Fibers Specification Available (WW), July, p. 37

ITT Upgrades Fiber-Optic System (LN), August, p. 20

Rockwell to Develop Lightwave Equipment (BI), August, p. 33

AT&T Receives Modernization Contract (CN), October, p. 32

EIA Has Fiber-Optic Test Methods Available (WW), October, p. 48

Filters & Ferrites

VLSI Promises Advancement for Wave Digital Filters (TA), July, p. 83

Dielectric-Resonator Design Shrinks Satellite Filters and Resonators (TA), August, p. 97

EEsof to Provide Filter Programs (BI), September, p. 34

Times Fiber Creates Fiber-Optic Unit (BI), September, p. 34

High-Power Mm-Wave Circulators and Isolators Designed to Operate at 44 GHz (TA), December, p. 101

Government/Industry News & Developments

Alcatel Thomson Obtains Senegal Contract (LN), January, p. 19

C³ $18.1 Million Contract Awarded to Electrospace Systems (WW), January, p. 43

Calma Relocates Headquarters (LN), January, p. 20

COMSAT to Build Earth Station if FCC Gives OK (WW), January, p. 44

COMSAT to Build Gulf Earth Station (LN), January, p. 19

Corning Sues Japanese Waveguide Companies (LN), January, p. 20

Court Affirms FCC Antenna Ruling (LN), January, p. 22

Daimo Victor Becomes Separate Division (BI), January, p. 35

ECT Cellular Sides With Racal Vodafone (VE), January, p. 46

E-Systems Gets Naval Contract (LN), January, p. 19

Faculty Shortages May Lower EE Quality (LN), January, p. 20

Far-East MilCom Market Exhibits Rapid Growth (BI), January, p. 35

Gallium Arsenide's Success Assured (AV), January, p. 55

Harris Opens New Manufacturing Facility (LN), January, p. 19

Let's Push the Pendulum—A Campus Perspective (J), January, p. 141

Martin Marietta Corp. Selected For Contract Negotiations (WW), January, p. 44

Sundstrand Acquires Communications Producer (BI), January, p. 35

Technology vs. Operational Technology (TF), January, p. 63

UK MILSPEC Awarded to Watkins-Johnson (VE), January, p. 46

Alpha Gets Contracts, Relocates Facilities (LN), February, p. 19

AT&T Communications Increases Speed of Transmission System (CN), February, p. 30

Avantek Dedicates New Facility (LN), February, p. 19

Boeing Computer Services To Install, Operate $200 Million NASA Network (WW), February, p. 41

California Microwave Reports Earnings (LN), February, p. 19

Corning Patents Infringed by Japanese (LN), February, p. 19

Data Transmission Continues Growth (BI), February, p. 36

Earth Station Ownership Shares Reallocated (WW), February, p. 43

Eaton Headquarters Shift to California (LN), February, p. 20

England Installs First Cellular System (BI), February, p. 36

FCC Grants SBS Commandable Spot Beam Mode (WW), February, p. 43

Fiber-Optic Venture Launched in S. Carolina (BI), February, p. 36

ISACOMM, Inc. Gets U.S./Canadian Digital Link (WW), February, p. 41

Ion-Milling Service Opens in New Hampshire (BI), February, p. 36

Loral Receives USAF RWR Contract (LN), February, p. 19

MLRS Contract Awarded to MDIT (IR), February, p. 46

Northern Telecom Receives $11 Million Microwave Radio Systems Contract (CN), February, p. 30

Office Links Spur Non-Telecom Fiber Optics; $40 M European Market by 1988 (WW), February, p. 43

Plessey Buys Interest in Signal Technology (VE), February, p. 44

R&D Laboratories Develop Microelectronics (BI), February, p. 36

Satellite Contract Set with Arianespace (BI), February, p. 36

SFE Nears Completion of German Plant (VE), February, p. 44

Uniform Tubes Forms Operating Company (BI), February, p. 36

Use of HAAT Computer-Generated Data Accepted (WW), February, p. 44

Air-to-Ground Telephone System Denied by FCC (WW), March, p. 43

Alpha Inaugurates New Facility (LN), March, p. 19

ARABSAT Launched: Domestic, Regional Communications Services Provided (CN), March, p. 30

COMSAT Reports 1984 Results (LN), March, p. 20

Corporation Markets High-Technology Products (BI), March, p. 35

Engelhard Buys Millis Corporation (LN), March, p. 20

Gould Acquires 3DBM Electronics (LN), March, p. 19

Harris Wins Contract for Weather Terminals (LN), p. 19

Japanese Firm Opens GaAs Facility in Itami (BI), p. 35

Joint Venture Targets Federal Communications (BI), March, p. 35

Manufacturer Supplies Microwave Radios (BI), March, p. 35

NEC Files Suit Against "Gray-Market" Supplier (LN), March, p. 22

New Unit Addresses Tactical Military Market (BI), March, p. 35

NPRM Seeks Mobile Satellite Service for Rural Areas (CN), March, p. 30

Record Sales and Earnings for Northrop (LN), March, p. 19

SBS Signs Agreement for Japan Service (LN), March, p. 19

TRAK Adds Subsystems to Product Line (BI), March, p. 35

Watkins-Johnson Announces Reorganization (BI), March, p. 35

Avantek Adds Lightwave Systems (LN), April, p. 19

COMSAT Labs Creates Development Organization (BI), April, p. 35

EnCom Awarded Earth Station Contract (LN), April, p. 22

Engineer Turnover High, Says AEA (LN), April, p. 22

E-Systems Awarded Navy Contract for More Than $8 Million (WW), April, p. 43

E-Systems Gets SMILS Contract (LN), April, p. 19

Ethyl Corp. Buys GaAs Manufacturer (BI), April, p. 35

Fairchild Industries, Alcatel Thomson Set up Joint Venture (CN), April, p. 30

K&L Buys Dielectric Laboratories, Inc. (LN), April, p. 19

Marconi to Update RAF Buccaneers (IR), April, p. 49

Marconi Transfers Flexaguide Line (BI), April, p. 35

Merrimac Sales and Backlog Increase (LN), April, p. 20

Microphase Announces Company Formation (BI), April, p. 35

NASA-Lewis Forecast Predicts Satcom Boom (BI), April, p. 35

Northern Telecom to Supply Radios (LN), April, p. 19

Pakistan Joins INMARSAT (IR), April, p. 49

Racal Wins Satellite Communication Contract (IR), April, p. 49

Subcontract Award Given to ARTS (BI), April, p. 35

Superwave Raises $2.25 Million (LN), April, p. 20

Teledyne Microwave Awarded Litton Amecom Contract (WW), April, p. 43

Thomson Subsidiary Opens New Facilities (IR), April, p. 49

Varian Discussing Major Acquisition (BI), April, p. 35

Wavetek Centralizes Its Sales Force (LN), April, p. 19

Adams-Russell Acquires A.I. Grayzel (LN), May, p. 22

Canadian Microwave Company Formed (IR), May, p. 48

Communications Growth to Boost Test Equipment Market (LN), May, p. 22

COMSAT Issues Debentures, Expands Organization and Products (CN), May, p. 30

COMSAT Undergoes Major Realignment (LN), May, p. 19

DARPA Projects Begin Transition to the Military (WW), May, p. 43

DF System Provides Safety in North Sea (IR), May, p. 48

Electrospace Receives Marine Corp Contract (WW), May, p. 45

ESD to Manage DOD MLS Program (LN), May, p. 20

GaAs, III-V Newsletter Examines Technologies (BI), May, p. 35

Gould Announces Thin-Film Foundry (BI), May, p. 35

GTE to Triple Boron Nitride Output (BI), May, p. 35

INMARSAT, British Aerospace Sign Contract (IR), May, p. 46

Loral to Buy Rolm Computer Division (LN), May, p. 19

Manufacturer Completes 2nd-Round Financing (BI), May, p. 35

MLS Equipment Award Goes to Northrop Unit (BI), May, p. 35

New Canadian MW Firm Opens (IR), May, p. 46

Organization Expansion at Avantek (LN), May, p. 19

Power Amp Award Goes to LNR (BI), May, p. 35

Producer Celebrates 10th Anniversary (BI), May, p. 35

Research Initiative Targets Money for Universities (WW), May, p. 45

SADARM Tested Successfully (LN), May, p. 19

Turner Signs with COMSAT (CN), May, p. 30

Varian Changes Solid State Operations (LN), May, p. 19

Comtech, Inc. Receives Third Add-on Order (WW), June, p. 44

Continental Telecom to Acquire Northern Data Systems, Inc. (CN), June, p. 30

CSA Returns to Microwave Market (IR), June, p. 47

CSR Awarded INMARSAT Contract (IR), June, p. 47

Electronics Industry Grows 6 Percent (LN), June, p. 23

EPSCO Gets Test Equipment Contract (LN), June, p. 19

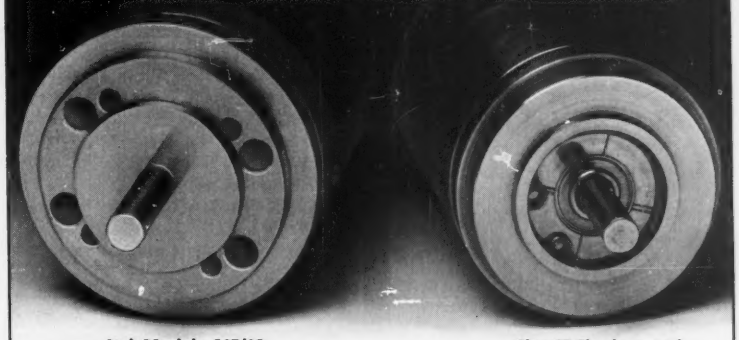
E-Systems Announces $3.9 Million Subcontract (WW), June, p. 42

Filtronic Wins Queen's Award (IR), June, p. 47

GaAs-Wafer Production Raised (BI), June, p. 33

Harris Awarded Space Station Contracts (WW), June, p. 42

Where to turn?

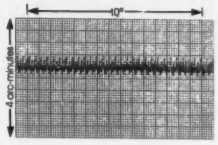


Itek Model μS15/16
LSI MicroSeries® Absolute ENCODER

Size 15 Single-speed
RESOLVER

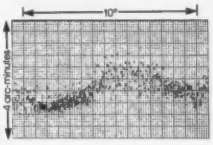
For shaft-angle digitizing, the Itek encoder is the choice because it offers more than 3 times the accuracy at the same price!

Compare the two recordings below for *proof-positive* that Itek's LSI MicroSeries encoder provides more than 3 times the accuracy of a single-speed resolver. Yet it costs no more!



Itek Model 16 MicroSeries Encoder: more than three times the accuracy (30 arc-seconds)...at no more cost.

Single-speed "high accuracy" Size 15 resolver and R-D: less than one-third the accuracy (108 arc-seconds)...and costs as much.



It's an *easy* choice now because of the dramatic size reduction of a typical 15-bit encoder by more than a factor of 10 from *1970* to *today!* Plus, the Itek encoder *cost* is reduced by over 50% so our new LSI MicroSeries encoders are very comparable to single-speed resolver systems but offer the much greater accuracy – more than 3 times! – attainable *only from encoders!* And when comparing multi-speed resolver systems, an Itek LSI μS encoder provides *all* the accuracy of a multi-speed resolver *but at much lower cost!* Thus, Itek's LSI encoders are replacing resolvers in tactical weapons systems and other applications where *accuracy, space,* and *cost* count most. It's the TURNING POINT in shaft-angle digitizing – once *you* compare, you'll know *where* and *how* to turn!

Litton **ITEK MEASUREMENT SYSTEMS**
27 Christina Street, Newton, MA 02161
TEL: 617/969-7300 TWX: 710/335-6783

MicroSeries is a registered trademark of Itek Corporation.

Circle Reader Service No. 36

EDITORIAL INDEX

Honeywell Renames Business Unit (BI), June, p. 33

Loral Acquires Hycor, Inc. (BI), June, p. 33

New Record Earnings for Loral (LN), June, p. 19

Producer Expands GaAs Product Line (BI), June, p. 33

Raytheon Begins Plant Expansion (BI), June, p. 33

Spectrum Technology Expands Management (LN), June, p. 20

Telemetry Handbook Project Started (WW), June, p. 44

U.S. Army R&D Command Is Reorganizing (WW), June, p. 44

Varian Expands Research Facility (LN), June, p. 19

AEL Reports First-Quarter Results (LN), July, p. 19

Air Force Lifts Alpha Suspension (LN), July, p. 23

Alpha Reorganizes and Expands Division (LN), July, p. 23

Aydin Receives $3 Million Add-On (IR), July, p. 44

California Microwave to Sell Receiver Assets (LN), July, p. 20

Companies Collaborate Over EFA Radar (LN), July, p. 23

Eaton Acquires Research Company (BI), July, p. 31

EM Systems Receives $3.5 Million Contract (WW), July, p. 38

Frequency Sources Opens Lowell Facility (LN), July, p. 20

Harris Awarded $27 Million Additional Funding (WW), July, p. 37

Harris Offers GaAs MMIC Fab Service (LN), July, p. 19

K&L Acquires Oscillatek, Inc. (LN), July, p. 19

Marconi Facility Begins Operation (IR), July, p. 44

Raytheon Establishes Ventures Office (BI), July, p. 31

Raytheon Gets USAF MILSTAR Contract (LN), July, p. 20

RCA Wins Space Station Study (LN), July, p. 20

Research Lab Forms Sensor Office (BI), July, p. 31

Rockwell Supplies Microwave Equipment (BI), July, p. 31

Thorn EMI Varian Receives Contract (IR), July, p. 44

U.S. Army Awards GTE $10 Million Contract (WW), July, p. 37

Viking Labs Expands Test Facility (LN), July, p. 19

Wiltron Addresses New England Market (BI), July, p. 31

Wiltron Expands European Presence (LN), July, p. 19

AEL Gets Awards Totaling $16.1 Million (LN), August, p. 20

Air Force Looks to Microwave Industry (LN), August, p. 19

Anadigics Gets $9.7 Million (BI), August, p. 33

Center Studies Defense Industrial Base (WW), August, p. 42

Cincinnati Electronics Awarded $9.2 Million (WW), August, p. 42

E-Systems Receives $14.5 Million MILSTAR Contract (WW), August, p. 41

Electromagnetic Sciences Sales Up (LN), August, p. 20

Electronics R&D Spending Doubles (BI), August, p. 33

EnCom Awarded Earth-Station Contract (LN), August, p. 19

EPSCO Acquires 3 dbm Systems (BI), August, p. 33

FCC Authorizes Satellite System (LN), August, p. 19

Five Companies Sponsor University Lab (LN), August, p. 23

Geostar to Offer Satellite Service (LN), August, p. 23

GTE System Completes U.S. Navy Test (LN), August, p. 20

ITT Upgrades Fiber-Optic System (LN), August, p. 20

Keene Upgrades R&D Capability (BI), August, p. 33

Litton Develops HF/VHF Power Bank (CN), August, p. 30

Loral Unit to Supply Microwave Sources (WW), August, p. 41

New Microwave Firm Makes FETs and Amplifiers (BI), August, p. 33

New Weather Satellite in the Works (WW), August, p. 41

Pricing Breakthrough Benefits Smaller Corporations and Businesses (LN), August, p. 30

RCA Wins Study for Space Station (WW), August, p. 42

Radio Channel Procedures Changed (LN), August, p. 19

Rockwell and Mitre to Demonstrate Satellite Data-Link Communication (LN), August, p. 30

Rockwell to Develop Lightwave Equipment (BI), August, p. 33

Sanders Receives $2.6 Million Contract (WW), August, p. 41

SBS Expands Domestic Access and Provides One-Way Video Networks (CN), August, p. 30

Taconic Forms Dielectrics Division (LN), August, p. 20

Tektronix Addresses Outside Customers (BI), August, p. 33

Varian Forms Korean Joint Venture (LN), August, p. 23

Anadigics Announces GaAs IC Strategy (LN), September, p. 23

Bechtel and Varian Team on Fab Plant (LN), September p. 19

Calibration Method Developed by NBS (LN), September, p. 19

CITCOM to Digitalize Analog Cable in Long-Distance Network (CN), September, p. 30

Com Dev Expands into Europe (IR), September, p. 49

COMSAT Reports GaAs FET Advance (LN), September, p. 20

COMSAT to Supply Data-Communications Terminals (WW), September, p. 45

Fairchild Space Awarded $16.3 Million Contract (WW), September, p. 45

GaAs Impact on Silicon Forecast (LN), September, p. 20

Gould Reduces Semiconductor Area (BI), September, p. 34

Merger and Acquisition Activity Down in Communications Industry (CN), September, p. 30

MIC and MMIC Packaging Innovations Continue to Develop (TA), September, p. 100

Racal Receives Tactical Radio Orders (IR), September, p. 50

Sealectro Changes Management Team (LN), September, p. 19

Second-Sourcing Agreement Formalized (LN), September, p. 19

Signal Tech Acquires KW Engineering (LN), September, p. 20

Switch Drives Fit Microwave Switches of All Sizes (PF), September, p. 137

Thomson-CSF Creates Holding Company (IR), September, p. 49

Tri-Service R&D Investment Continues to Grow (AV), September, p. 54

Alinet, Lexitel to Combine Companies (BI), October, p. 35

AT&T Receives Modernization Contract (CN), October, p. 32

Cominco Announces GaAs Wafer Expansion (BI), October, p. 35

Company to Expand Satcom Network (WW), October, p. 48

Comtech Provides Satellite Signal Analyzers (WW), October, p. 48

Harris Receives Architecture-Development Contract (WW), October, p. 47

Interstate Electronics Awarded GPS Contract (WW), October, p. 48

ITC Affirms Tandon Patent Ruling (WW), October, p. 47

Marconi Wins Satellite Bid (LN), October, p. 20

PRC Contracts with Racal for Radar (LN), October, p. 19

The 1985 IEEE GaAs IC Symposium Charts New Developments in the Field (SF), October, p. 111

TRW Granted Preliminary Injunction (LN), October, p. 19

Two Contracts Go to Northern Telecom and GE (CN), October, p. 30

$8.5-Million Contract Goes to W-J (LN), October, p. 19

Agreement Signed with Corporation in PRC (BI), November, p. 35

Anaren Reports Earnings Increase (LN), November, p. 23

AWIS Contract Awarded to GCA (WW), November, p. 44

CCC Buys Compact Software (LN), November, p. 19

Company Supports RF/Microwave CAD (BI), November, p. 35

Digital Receives "Short-Haul" Transmission Products Contract (CN), November, p. 32

Emmett Brownell Dead at 72 (LN), November, p. 23

EnCom to Build IBSS Earth Station (CN), November, p. 32

General Electric Sells Microwave Product Line (BI), November, p. 35

Gould Acquires Micro Bond Technologies (BI), November, p. 35

Joslyn Purchases MW Switch Line (BI), November, p. 35

M/A-COM Awarded Geostar Contract (LN), November, p. 19

NBS Upgrades Lab, Issues Report on Antennas (WW), November, p. 43

Permit granted for Gulf Cellular Radio Telephone System (WW), November, p. 44

Racal-MESL Awarded Components Contract (LN), November, p. 23

R&D Arrangement Announced for CVD (BI), November, p. 35

Study Charts Microwave Growth (BI), November, p. 35

Virtech Gets Injunction Modification (LN), November, p. 19

Bachman Chosen IEEE President-Elect (LN), December, p. 23

British Telecom Joins EEA (IR), December, p. 51

Collins Begins NAVSTAR Work (LN), December, p. 20

Datron Delivers NEXRAD Subsystem (LN), December, p. 20

Datron Systems Buys Communications Firm (BI), December, p. 35

E-Systems Receives USAF Contract (LN), December, p. 19

Gould Establishes New Defense Units (BI), December, p. 35

Grace Forms Materials Unit (LN), December, p. 23

Korea Emerges as Factor in World Electronics (AV), December, p. 58

Landsat Transferred to Private Sector (WW), December, p. 47

Low-Noise HEMT is Commercially Available (LN), December, p. 20

MSE Award Goes to GTE and Thomson-CSF (BI), December, p. 35

Plessey to Have Largest European Factory (LN), December, p. 19

PRC Wins Intelligence Contract (WW), December, p. 47

RHG Bought by Adams-Russell (LN), December, p. 19

Semiconductor Areas Combined at NBS (BI), December, p. 35

Instrumentation

Frequency Conversion System Designed for EHF Digital Satcom (PF), January, p. 149

Microwave Frequency Counters Built Around GaAs Sampler (PF), January, p. 151

Progress Continues in Millimeter-Wave Signal Analysis (TA), January, p. 126

Second-Generation Vortac Equipment Has Remote Maintenance and Monitoring Capabilities (EU), January, p. 144A

Instrumentation Radars Fulfill Role in RCS Measurement (TA), February, p. 75

Signal Generators Give Traditional Benefits Plus Extended Capabilities (PF), February, p. 116

Ion-Milling Service Opens in New Hampshire (BI), February, p. 36

Group of Six Mixers Offers "Drop-In" Alternatives (PF), March, p. 148

Microwave Frequency Counter Has Range From 10 Hz to 18 GHz (PF), March, p. 147

Adaptor Reliability Affects VSWR and Loss Measurement (TA), April, p. 95

Broadband Noise Generating Instruments Have High Output (PF), May, p. 265

Designers' Needs Increase Availability of Mm-Wave Instrumentation (CF), May, p. 64

Source Building Blocks Satisfy Many Fundamental System Requirements (TA), May, p. 83

Sweep Generators Feature Four Operating Modes (PF), May, p. 260

Sweep Generators Feature "Instantaneous" Full Waveguide Bandwidths (PF), May, p. 271

Simulator/Modulator Combination Simulates Multiemitter RF Environment (PF), June, p. 164

High-Performance Ku-Band Earth Station Is Compact (PF), August, p. 180

Spectrum Analyzer Incorporates Useful Features (PF), August, p. 178

Cominco Announces GaAs Wafer Expansion (BI), October, p. 35

Company to Expand Satcom Network (WW), October, p. 48

Comtech Provides Satellite-Signal Analyzers (WW), October, p. 48

Daewoo Exports Its First Robot (IR), October, p. 52

ITC Affirms Tandon Patent Ruling (WW), October, p. 47

Japanese Competition Forces Automation (BI), October, p. 35

Raytheon to Produce USAF Radios (LN), October, p. 20

MOUSSE

Mousse? Obviously, that's a moose.

Some differences are more subtle. Like engineering capability to design and produce passive microwave components to your exact specifications.

Or having on hand, in our inventory, ready to ship, the most complete line of microwave products.

Those of you who know MICROLAB know.

Those of you who don't, we would like to show. Obviously!

MICROLAB/FXR
'the reliable source'

Ten Microlab Rd., Livingston, NJ 07039 (201) 992-7700 • TWX: 710 994-4850

Circle Reader Service No. 45

DRFMs

by DEL

DRFM (dər-fəm) ***n.***
[Digital RF Memory]
1: the heart of the most advanced Deceptive Electronic Counter Measure Systems and Electronic Warfare Threat Simulator Systems. **2:** a hybrid combination of microwave integrated circuits and high speed digital logic capable of providing coherent storage, delay, and replication of microwave signals.

DEL (del) ***n.***
[Design Engineering Laboratories]
1: a leader in multi-bit DRFMs. **2:** the cost effective source for EW systems, simulators, and sub-systems.

From wideband, multi-bit DRFMs to complete EW Systems and Simulators, DEL can provide units and systems tailored to your own requirements at a price and delivery schedule you can afford. Write or call (213) 530-4711 for more information.

DEL

Design Engineering Labs
2545 West 237th Street
Torrance, California 90505

Circle Reader Service No. 26

EDITORIAL INDEX

W. German Firm to Make TDMAs (IR), October, p. 52

AWIS Contract Awarded to GCA (WW), November, p. 44

BBC Orders Equipment for Transmitter Station (IR), November, p. 48

GaAs Custom MMIC Foundry: The Right Tool for the Times (TF), November, p. 61

M/A-COM Awarded Geostar Contract (LN), November, p. 19

Plessey Commissions Electron-Beam Writer (IR), November, p. 47

MSE Award Goes to GTE and Thomson-CSF (BI), December, p. 35

New-Generation Navigation Aids Use Digital Techniques to Enhance Performance (EU), December, p. 80A

Spectrum Analyzer Provides Accuracy and Eliminates Guesswork (PF), December, p. 141

Test and Measurement Equipment Becomes Expert (SF), December, p. 109

International Trade

Egyptian Telephone Cable Orders Awarded to ANT (IR), January, p. 49

ITT Signs Protocol With Yugoslavs (VE), January, p. 46

Marconi Gets $1.25M Australian Contract (IR), January, p. 49

NATO Awards SACLANT Contract to Contel Page (IR), January, p. 49

Scientific-Atlanta to Sell B-MAC Decoders (IR), January, p. 49

Westinghouse to Supply Defense System to Jordan (IR), January, p. 49

ANT Gets Middle East Paging Contract (VE), February, p. 44

East Midland Picks Marconi ASR Radar (IR), February, p. 46

England Installs First Cellular System (BI), February, p. 36

Gabon Joins INMARSAT (VE), February, p. 44

INMARSAT Assists COSPAS-SARSAT (IR), February, p. 46

INMARSAT to Introduce Data Lease Service (IR), February, p. 46

MLRS Contract Awarded To MDIT (IR), February, p. 46

Plessey Buys Interest In Signal Technology (VE), February, p. 44

Police Go Digital With Ericsson (IR), February, p. 46

SFE Nears Completion of German Plant (VE), February, p. 44

Thomson-CSF Trainee Center Opens (VE), February, p. 44

ARABSAT Launched: Domestic, Regional Communications Services Provided (CN), March, p. 30

Corporation Markets High-Technology Products (BI), March, p. 35

Japanese Firm Opens GaAs Facility in Itami (BI), March, p. 35

SBS Signs Agreement for Japan Service (LN), March, p. 19

Cameroon's MW Radio Network Extended (IR), April, p. 46

Italian CES on Line With INMARSAT (IR), April, p. 46

Raytheon Supplies SSTs to Pakistan's Navy (IR), April, p. 49

Scientific-Atlanta Licenses Technology (IR), April, p. 46

China Awards Contract for Six Satellite Receivers (CN), May, p. 30

Datron Delivers Antenna Systems (IR), May, p. 48

Ericsson Transfers Casing Operations to UK (IR), May, p. 46

Ferranti, E-Systems Sign RWS Agreement (IR), May, p. 48

Hughes' APG-65 Radar Picked by Luftwaffe (IR), May, p. 46

Marconi Supplies Simulator to Finland (IR), May, p. 48

Adams-Russell to Manufacture in Ireland (LN), June, p. 19

Ballantine Forms Sales Center in China (IR), June, p. 47

Belgium Selects Finnish Base Stations (IR), June, p. 48

Boiriet Technologies Affiliates with Rogers (LN), June, p. 20

Canadian Company Opens Its Doors (LN), June, p. 20

Ferranti Supplies System to Sun Oil (IR), June, p. 48

Raytheon to Expand Egypt's MW Network (IR), June, p. 47

UK Company Forms Sales Link with U.S. (IR), June, p. 48

Indonesian Navy Buys British Systems (IR), July, p. 44

SBS Provides Services to Australia, Singapore (IR), July, p. 43

Wiltron Expands European Presence (LN), July, p. 19

Company Announces Japanese Subsidiary (IR), August, p. 48

Ferranti Supplies ATE to RAF (IR), August, p. 47

IMMARSAT Users Increase (IR), August, p. 48

Marconi Aids Network Expansion (IR), August, p. 47

Raytheon Wins Canadian Contract (IR), August, p. 47

Thorn EMI Wins Subsystem Order (IR), August, p. 47

VSIA Meets Transmission Deadline (IR), August, p. 47

Varian Forms Korean Joint Venture (LN), August, p. 23

TSCS to Bid For UKAIR CCIS (IR), August, p. 48

Algeria Buys Voice Equipment (IR), September, p. 50

British Aerospace Awarded Contract (IR), September, p. 49

Com Dev Expands Into Europe (IR), September, p. 49

France Supports Eureka Program (IR), September, p. 50

M/A-COM Company Expands Facilities (BI), September, p. 34

Manufacturing Facility Opens in UK (IN), September, p. 23

Sanders Establishes Canadian Subsidiary (BI), September, p. 34

Sealectro Changes Management Team (LN), September, p. 19

AEA Awards Japan Research Grants (IR), October, p. 51

Daewoo Exports Its First Robot (IR), October, p. 52

INMARSAT Reduces Charges (IR), October, p. 52

Japanese Competition Forces Automation (BI), October, p. 35

Kenya Buys Air-Traffic System (IR), October, p. 51

MCS to Develop Channel Simulator (IR), October, p. 52

New Air Defense for Malaysia (IR), October, p. 51

PRC Contracts with Racal for Radar (LN), October, p. 19

W. German Firm to Make TDMAs (IR), October, p. 52

Yugoslavs Get Weather Radars (IR), October, p. 52

BBC Orders Equipment for Transmitter Station (IR), November, p. 48

EPSCO Receives New Japanese Orders (IR), November, p. 47

Martin Marietta Opens Canadian Subsidiary (LN), November, p. 20

Plessey Commissions Electron-Beam Writer (IR), November, p. 47

PRC to Purchase Gould Oscilloscopes (LN), November, p. 20

Racal-MESL Awarded Components Contract (LN), November, p. 23

Republic of Korea Joins INMARSAT (IR), November, p. 47

Sask Power to Use Satellite System (IR), November, p. 47

Single Quartz Crystal Process Developed (IR), November, p. 47

Thomson-CSF Awarded Radar Contracts (IR), November, p. 48

U.S./UK Satellite Services Offered (IR), November, p. 48

Australian Airline Buys U.S. Radar (IR), December, p. 51

British Telecom Joins EEA (IR), December, p. 51

British to Demonstrate SA B-MAC (IR), December, p. 52

Canadian Radar Modernization Begins (IR), December, p. 52

Checksite Tests ECM Performance (IR), December, p. 51

Contract Awarded for Thin-Film Research (BI), December, p. 35

Greek Maritime Satellite Station Opens (IR), December, p. 52

Houston Teleport Transmits to West Germany (CN), December, p. 30

Hughes Orders Australian Radar (IR), December, p. 51

JISO Extends COMSAT Contract (IR), December, p. 52

Korea Emerges as Factor in World Electronics (AV), December, p. 58

Plessey to Have Largest European Factory (LN), December, p. 19

SatCom Insurance Faces Major Changes (BI), December, p. 35

Measurement

Second-Generation Vortac Equipment Has Remote Maintenance and Monitoring Capabilities (EU), January, p. 144A

Instrumentation Radars Fulfill Role in RCS Measurement (TA), February, p. 75

Low-Cost Technique Provides Accurate Miss-Distance Indicating (CF), February, p. 62

Antenna Measurements: An Exciting Technology (OP), March, p. 62

Digital Techniques and RF Solid-State Technology Improve Tacan and DME Equipment (EU), March, p. 80A

Spherical Near-Field Antenna Measurements Improve Through Expanded Software Features (CF), March, p. 64

Adaptor Reliability Affects VSWR and Loss Measurement (TA), May, p. 95

Microwave Wafer Probing Achieves On-Wafer Measurements Through 18 GHz (TA), May, p. 99

Universal Counters Provide Cost-Effective, Maximum Measurement Performance (PF), May, p. 267

DPS Technique Continues Progress for Precision DME (EU), July, p. 82A

Company Announces Japanese Subsidiary (IR), August, p. 48

Marconi Aids Network Expansion (IR), August, p. 47

Calibration Method Developed by NBS (LN), September, p. 19

ITC/USA/'85 (SF), September, p. 127

Techniques Examined for Gimbal-Angle Measurement (TA), September, p. 119

NBS Upgrades Lab, Issues Report on Antennas (WW), November, p. 43

Is Mm-Wave Test and Measurements Up to Date? (OP), December, p. 69

Test and Measurement Equipment Becomes Expert (SF), December, p. 109

Millimeter-Wave Technology

Progress Continues in Millimeter-Wave Signal Analysis (TA), January, p. 126

Surface-Mounted MICs and MMICs Play Vital Role in Military Communications (CF), January, p. 72

Microwave CAE/CAD Technology: A Forecast for the '80s (TF), February, p. 57

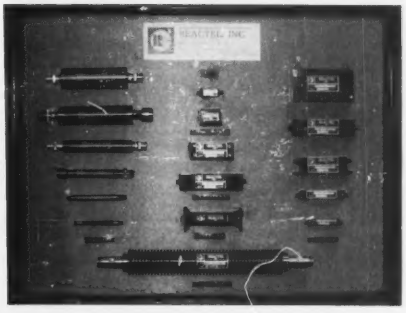
Device and Subsystem Capability Emerging from Mm-Wave Technology (TF), March, p. 59

Microwave Systems Advancing With Help From Digital Technology (TF), April, p. 63

Designers' Needs Increase Availability of Mm-Wave Instrumentation (CF), May, p. 64

Developments Continue in Millimeter-Wave Gunn Oscillators (TA), May, p. 139

The Filter Family Portrait



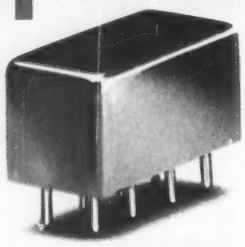
If you need a filter — any type, any spec., any size from 2KHz to 18GHz . . .

REACTEL, INC.
687-D LOFSTRAND LANE
ROCKVILLE, MD 20850

write or call
Manny Assurian
(301) 279-5535

Circle Reader Service No. 60

2-way 90° splitters



1.4 to 450 MHz
from $12.95 (5-49)

IN STOCK...IMMEDIATE DELIVERY

- over 50 models available
- octave and narrow-band designs
- quadrature performance tightly controlled
- hermetically sealed
- **MIL-P-23971 performance***
- one-year guarantee

*Units are not QPL listed

2-WAY 90° SPECIFICATIONS

- isolation 22 dB typ.
- avg. insertion loss 0.4 dB typ.
- 90° phase deviation <2 deg. typ.
- amplitude unbalance <1.2 dB typ.

MODEL	Freq. Range MHz	Price $ Ea.
PSCQ-2-1.5	1.4 – 1.7	12.95
PSCQ-2-3.4	3.0 – 3.8	16.95
PSCQ-2-6.4	5.8 – 7.0	12.95
PSCQ-2-7.5	7.0 – 8.0	12.95
PSCQ-2-10.5	9.0 – 11.0	12.95
PSCQ-2-13	12 – 14	12.95
PSCQ-2-14	12 – 16	16.95
PSCQ-2-21.4	20 – 23	12.95
PSCQ-2-50	25 – 50	19.95
PSCQ-2-70	40 – 70	19.95
PSCQ-2-90	55 – 90	19.95
PSCQ-2-120	80 – 120	19.95
PSCQ-2-180	120 – 180	19.95
PSCQ-2-250	150 – 250	19.95
PSCQ-2-400	250 – 400	19.95
PSCQ-2-450	350 – 450	19.95

Call or write for 64-page RF Designers Guide or refer to EEM, EBG, Gold Book, Microwaves & RF Directories.

finding new ways ...
setting higher standards

Mini-Circuits

A Division of Scientific Components Corporation
World's largest manufacturer of Double Balanced Mixers
P.O. Box 166, B'klyn, N.Y. 11235 (718) 934-4500

C99-3 REV. ORIG.

Circle Reader Service No. 94

EDITORIAL INDEX

Hybrid Design Proves Effective for Flat Millimeter-Wave Antennas (TA), June, p. 123

Millimeter-Wave System Designs Implemented Using "Domino" Concept (TA), June, p. 151

Millimeter-Wave Components—When? (TF), September, p. 61

GE Expands GaAs R&D Capability (LN), October, p. 20

GaAs MMICs—The Solution for Phased Arrays? (AV), November, p. 54

High-Power Mm-Wave Circulators and Isolators Designed to Operate at 44 GHz (TA), December, p. 101

Is Mm-Wave Test and Measurements Up to Date? (OP), December, p. 69

Printed-Element Triplexer Advances Mm-Wave Technology (TA), December, p. 81

Monolithic Microwaves

Surface-Mounted MICs and MMICs Play Vital Role in Military Communications (CF), January, p. 72

MIC and MMIC Packaging Innovations Continue to Develop (TA), September, p. 100

Tri-Service R&D Investment Continues to Grow (TA), September, p. 100

Opinion

Clouds of Civil War Gather Over South Africa (I), January, p. 50

Technology Transfer: Walking the Fine Line (OP), January, p. 69

Technology vs. Operational Technology (TF), January, p. 63

Acceptance for Gallium Arsenide (AV), February, p. 50

Microwave CAE/CAD Technology: A Forecast for the '80s (TF), February, p. 57

Moscow's War of Terror Makes Headway in Afghanistan (I), February, p. 49

Space-Based Radar: The Sky's the Limit (OP), February, p. 61

Antenna Measurements: An Exciting Technology (OP), March, p. 62

Gallium-Arsenide Reliability Baseline—When? (OP), April, p. 66

Strategic-Metals Dependency Viewed With Alarm (I), April, p. 50

Arms-Control Talks, or The Art of Using a Long Spoon (I), May, p. 51

Microwave Applications Look to the Future (TF), May, p. 59

The Impact of Funding on the High-Technology Sector (AV), May, p. 52

Where Has All the Magic Gone? (OP), May, p. 62

Sudan Ousts Nimeiry, Chad's Days May be Numbered (I), June, p. 50

Tubes Continue Delivering Microwave Power (TF), June, p. 62

TVRO: A Force for Advancement and Change (AV), June, p. 55

Medical Supplies Shortage Plagues Soviet Military (I), July, p. 47

Procurement Trends Assessed for GaAs MMICs (TF), July, p. 55

R&D Tax Credit Vital to the Microwave Industry (OP), July, p. 63

The Future of MICs (AV), July, p. 48

Extra-Terrestrial Relays (TF), August, p. 59

Microwave-Hybrid Technology—A Look Ahead (AV), August, p. 51

U.S. Armed Forces Spread Out Too Thin? (I), August, p. 49

Will the Component Design Engineer Become Obsolete? (OP), August, p. 69

Do We Need MIL-SPEC Pencils? (OP), September, p. 65

Guerrillas Gain Ground in the Philippines (I), September, p. 53

Millimeter-Wave Components—When? (TF), September, p. 61

An Interview With E. Oran Brigham (VT), October, p. 88

Integrity in the Marketplace (OP). October, p. 69

Pros and Cons of R&D Bidding Strategies (AV), October, p. 58

South Africa: Taking an Alternative Look (I), October, p. 55

What is the Direction of Commercial Microwave Technology? (TF), October, p. 65

GaAs Custom MMIC Foundry: The Right Tool for the Times (TF), November, p. 61

GaAs MMICs—The Solution for Phased Arrays? (AV), November, p. 54

System/Component Synergy: Key to Performance and Reliability (OP), November, p. 65

Geneva and Technology Transfer—Change on the Horizon? (TF), December, p. 65

Korea Emerges as a Factor in World Electronics (AV), December, p. 58

Is Mm-Wave Test and Measurement Up to Date? (OP), December, p. 69

Play It Again, Sam (I), December, p. 55

Radar

Antenna Makes Enemy's Detection of Radar Difficult (WW), January, p. 43

Honeywell Military Avionics to Supply Radar Altimeter (WW), January, p. 44

Technology vs. Operational Technology (TF), January, p. 63

East Midland Picks Marconi ASR Radar (IR), February, p. 46

Loral Receives USAF RWR Contract (LN), February, p. 19

Low-Cost Technique Provides Accurate Miss-Distance Indicating (CF), February, p. 62

Instrumentation Radars Fulfill Role in RCS Measurement (TA), February, p. 75

Hughes' APG-65 Radar Picked by Luftwaffe (IR), May, p. 46

Companies Collaborate Over EFA Radar (LN), July, p. 23

Raytheon Wins Canadian Contract (IR), August, p. 47

Scanning-Pencil-Beam Technique Provides Accurate 3-D Radar Coverage (EU), August, p. 80A

RFD to Produce AWACS Radar Transmitters (WW), September, p. 46

Interstate Electronics Awarded GPS Contract (WW), October, p. 48

Kenya Buys Air-Traffic System (IR), October, p. 51

Litton to Produce Threat-Warning Systems (WW), October, p. 47

New Air Defense for Malaysia (IR), October, p. 51

PRC Contracts with Racal for Radar (LN), October, p. 19

Yugoslavs Get Weather Radars (IR), October, p. 52

Orders for J-STARS Program Go to Aydin (WW), November, p. 43

Thomson-CSF Awarded Radar Contracts (IR), November, p. 48

Australian Airline Buys U.S. Radar (IR), December, p. 51

Checksite Tests ECM Performance (IR), December, p. 51

Datron Delivers NEXRAD Subsystem (LN), December, p. 20

GE Develops HEMTs for Satellite Communications and Radar (CN), December, p. 30

Hughes Orders Australian Radar (IR), December, p. 51

IF Commutation Increases Monopulse Radar Accuracy (TA), December, p. 91

Receivers

Technology Advances Air Traffic Control Communications Equipment (EU), February, p. 130A

Harris Wins Contract for Weather Terminals (LN), March, p. 19

Ultra-Wideband IFM Receiver Fulfills Design Requirements (TA), April, p. 105

China Awards Contract for Six Satellite Receivers (CN), May, p. 30

GPS Receiving System to Give Unprecedented Navigation Accuracy (EU), May, p. 144A

California Microwave to Sell Receiver Assets (LN), July, p. 20

GTE System Completes U.S. Navy Test (LN), August, p. 20

Thorn EMI Wins Subsystem Order (IR), August, p. 47

Advanced Technologies Play Key Role in Designing Future EW Systems (CF), September, p. 66

GPS L-Band Triplexer Meets Stringent Requirements (EU), Septmber, p. 80A

GE to Produce Microwave Systems for Submarines (WW), October, p. 48

Printed-Element Triplexer Advances Mm-Wave Technology (TA), December, p. 81

Spectrum Analyzer Provides Accuracy and Eliminates Guesswork (PF), December, p. 141

Satellites

Agreement Reached For SatCom Network (BI), January, p. 35

COMSAT to Build Earth Station If FCC Gives OK (WW), January, p. 44

COMSAT to Build Gulf Earth Station (LN), January, p. 19

Frequency Conversion System Designed for EHF Digital Satcom (PF), January, p. 149

TIROS/DMSP Chosen for Planetary Missions (LN), January, p. 22

Agreement for Satellite Communications Announced (CN), February, p. 30

Earth Station Ownership Shares Reallocated (WW), February, p. 43

FCC Grants SBS Commandable Spot Beam Mode (WW), February, p. 43

FCC Orbital Spacing Committee in Offing (LN), February, p. 20

INMARSAT Assists COSPAS-SARSAT (IR), February, p. 46

INMARSAT to Introduce Data Lease Service (IR), February, p. 46

NOVA Satellite "2" Begins Service (LN), February, p. 20

Satellite Contract Set With Arianespace (BI), February, p. 36

ARABSAT Launched: Domestic, Regional Communications Services Provided (CN), March, p. 30

COMSAT Reports 1984 Results (LN), March, p. 20

Harris Wins Contract for Weather Terminals (LN), March, p. 19

NPRM Seeks Mobile Satellite Service for Rural Areas (CN), March, p. 30

Reflector Antennas Assessed for Satellite System Design (TA), March, p. 85

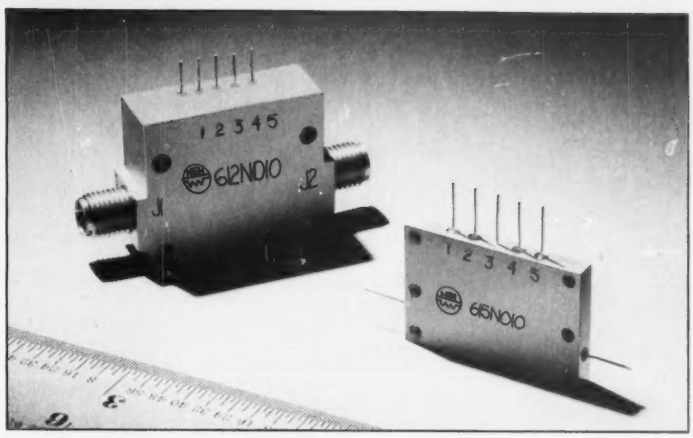
FCC Abolishes Satellite Procurement Rules, Revises Computer II (WW), April, p. 45

Harris to Develop Jamming Analysis and Monitoring System (WW), April, p. 45

INTELSAT V-A (F-10) Launch Costs (WW), April, p. 43

SBS Buys New Hughes Satellite for Launch in 1987 (CN), April, p. 30

GPS Receiving System to Give Unprecedented Navigation Accuracy (EU), May, p. 144A



1-18 GHz Low Transient Pulse Modulators And Lots More...

From New England Microwave

New England Microwave's Low Transient Pulse Modulators address a broad range of switching requirements from 1 to 18 GHz. Designed for high reliability, NEM modulators operate over the entire military temperature range of -55°C to +125°C. Because we control the entire manufacturing process, from the production of PIN diode wafers through final assembly and testing, you can be sure each modulator will perform to exacting specifications.

- 1-18 GHz Frequency Range in a Single Unit
- < 50 MV Switching Transient (100 MHz Bandwidth)
- Internally Terminated on Input
- < 5ns Rise and Fall Time
- +20 DBM Power Level
- Integral TTL Compatible Driver
- Up to 20 MHz Pulse Repetition Rate
- -55°C to +125°C Temperature Range
- MIL-STD-883 Screening Available

New England Microwave Also Manufactures:

• DIODES • ATTENUATORS • DRIVERS • INTEGRATED SUB-ASSEMBLIES

NEW ENGLAND MICROWAVE CORPORATION

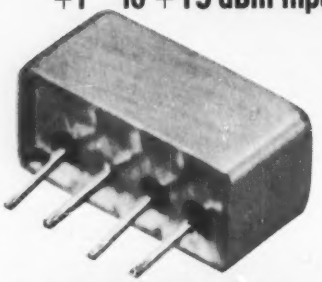
26 HAMPSHIRE DRIVE • HUDSON, NH 03051

(603) 883-2900 • TWX: 710-228-8972

Circle Reader Service No. 52

frequency doublers

+1 to +15 dBm input



1 to 1000 MHz

only $21.95 (5-24)

AVAILABLE IN STOCK FOR IMMEDIATE DELIVERY

- micro-miniature, 0.5 x 0.23 in. pc board area
- flat pack or plug-in mounting
- high rejection of odd order harmonics, 40 dB
- low conversion loss, 13 dB
- hermetically sealed
- **ruggedly constructed MIL-M-28837 performance***

*Units are not QPL listed

SK-2 SPECIFICATIONS

FREQUENCY RANGE, (MHz)		
INPUT 1-500		
OUTPUT 2-1000		
CONVERSION LOSS, dB	TYP.	MAX.
1-100 MHZ	13	15
100-300 MHz	13.5	15.5
300-500 MHz	14.0	16.5
Spurious Harmonic Output, dB	TYP.	MIN.
2-200 MHz F1	−40	−30
F3	−50	−40
200-600 MHz F1	−25	−20
F3	−40	−30
600-1000 MHz F1	−20	−15
F3	−30	−25

For complete specifications and performance curves refer to the 1980-1981 Microwaves Product Data Directory, the Goldbook or EEM.

finding new ways . . .
setting higher standards

Mini-Circuits

A Division of Scientific Components Corporation
World's largest manufacturer of Double Balanced Mixers
2625 E. 14th St. B'klyn, N.Y. 11235 (718) 769-0200
C78-3 Rev.A

Circle Reader Service No. 95

EDITORIAL INDEX

Licensee Can Obtain Free Shuttle Launch (WW), May, p. 43

RCA Americom to Switch to 45-Watt TWTAs on Satellites (CN), May, p. 30

FCC Deliberates on Mobile Satellite Service (CN), June, p. 30

British Aerospace to Supply Satellite (IR), July, p. 43

Houston Teleport Licensed as International Earth Station (CN), July, p. 28

Pirate Satellites to Go Up in Europe? (IR), July, p. 43

Raytheon Gets USAF MILSTAR Contract (LN), July, p. 20

Satellite Funding Becoming Difficult (BI), July, p. 31

SSC to Install NASA Network Stations (CN), July, p. 28

Dielectric-Resonator Design Shrinks Satellite Filters and Resonators (TA), August, p. 97

E-Systems Receives $14.5 Million MILSTAR Contract (WW), August, p. 41

EnCom Awarded Earth-Station Contract (LN), August, p. 19

FCC Authorizes Satellite Systems (LN), August, p. 19

Geostar to Offer Satellite Service (LN), August, p. 23

High-Performance Ku-Band Earth Station is Compact (PF), August, p. 180

INMARSAT Users Increase (IR), August, p. 48

New Weather Satellite in the Works (WW), August, p. 41

Rockwell and Mitre to Demonstrate Satellite Data-Link Communications (CN), August, p. 30

Two-Way Satellite-Communications System is Versatile (PF), August, p. 182

VSIA Meets Transmission Deadline (IR), August, p. 47

British Aerospace Awarded Contract (IR), September, p. 49

Com Dev Expands Into Europe (IR), September, p. 49

Companies to Bid on Warning System (IR), September, p. 50

COMSAT and TRT Inaugurate New York Teleport Earth Station (CN), September, p. 32

COMSAT Reports GaAs FET Advance (LN), September, p. 20

COMSAT to Supply Data-Communications Terminals (WW), September, p. 45

Contel Acquires Fairchild Interests (BI), September, p. 34

GPS L-Band Triplexer Meets Stringent Requirements (EU), September, p. 80A

INMARSAT to Close Pacific Ocean Gap (LN), September, p. 19

Modulation Associates Receives Orders from Kavouras and Hubbard (CN), September, p. 30

Scientific-Atlanta Sells Uplink Equipment to Turner Broadcasting (CN), September, p. 32

Teleport Licensed, Provides Service to Space Center (CN), September, p. 32

ASC Awarded Satellite Data-Network Contract (CN), October, p. 32

California Microwave Gets Earth Station Award (LN), October, p. 19

Company to Expand Satcom Network (WW), October, p. 48

Comtech Provides Satellite-Signal Analyzers (WW), October, p. 48

E-Systems Receives MILSTAR Contract (BI), October, p. 35

E-Systems to Provide NAVSTAR Subsystem (LN), October, p. 20

Harris Awarded Anti-Jam System Contract (BI), October, p. 35

INMARSAT Reduces Charges (IR), October, p. 52

Marconi Wins Satellite Bid (LN), October, p. 20

MCS to Develop Channel Simulator (IR), October, p. 52

Method Permits Gain Estimation for Very-Wide-Beam, Satellite-Termination Antennas (CT), October, p. 83

Wold Adds Weather and Information Network (CN), October, p. 30

B-MAC Technology to Be Used in Business and Satellite Networks (CN), November, p. 30

Brazil Plans for Satellites (IR), November, p. 48

FCC Simplifies Licensing Procedures (WW), November, p. 43

Federal Express Awards Satellite Network Contract (CN), November, p. 30

Republic of Korea Joins INMARSAT (IR), November, p. 47

Sask Power to Use Satellite System (IR), November, p. 47

Satcom for Airlines to Be Offered (LN), November, p. 20

U.S./UK Satellite Services Offered (IR), November, p. 48

Wideband Klystron Amplifier is Suitable for Digital Satellite Communications (TA), November, p. 93

Collins Begins NAVSTAR Work (LN), December, p. 20

GE Developes HEMTs for Satellite Communications and Radar (CN), December, p. 30

Greek Maritime Satellite Station Opens (IR), December, p. 52

Houston Teleport Transmits to West Germany (CN), December, p. 30

JISO Extends COMSAT Contract (IR), December, p. 52

Landsat Transferred to Private Sector (WW), December, p. 47

SatCom Insurance Faces Major Changes (BI), December, p. 35

Two MW and Satellite Transmission Contracts Awarded (CN), December, p. 30

Seminars & Conferences

Computer Exposition Announced for Europe (VE), January, p. 46

Fiber-Optics Seminar Slated for June (CN), January, p. 30

Innovations in Chip Design Presented at ISSCC '85 (SF), January, p. 86

OPTO '85 is Ready to Go (VE), February, p. 44

A Look Ahead to MTT-S (AV), April, p. 55

The 1985 IEEE MTT-S International Microwave Symposium Highlights Important Developments in the Industry (SF), May, p. 156

AAI Plans Exhibit for Defense Expo (IR), June, p. 48

The 15th European Microwave Conference Promises to Be the Largest Ever (SF), August, p. 114

Group to Support Compact's Product Line (BI), September, p. 34

First GaAs Seminar to Take Place (LN), October, p. 23

ITC/USA/'85 Presents New Ideas (SF), October, p. 155

The 1985 IEEE GaAs IC Symposium Charts New Developments in the Field (SF), October, p. 111

Company Supports RF/Microwave CAD (BI), November, p. 35

Signal Processing

Progress Continues in Millimeter-Wave Signal Analysis (TA), January, p. 126

Surface-Mounted MICs and MMICs Play Vital Role in Military Communications (CF), January, p. 72

Firmware Innovation Enhances Performance of Microwave Counter (TA), February, p. 99

Signal Generators Give Traditional Benefits Plus Extended Capabilities (PF), February, p. 116

Programmable RF Signal Processors Demonstrated for Spread-Spectrum Communication Systems (TA), April, p. 76

DDLs Perform Vital Signal-Processing Role (TA), July, p. 99

Anadigics Announces GaAs IC Strategy (LN), September, p. 23

Log Amplifiers Solve Dynamic-Range and Rapid-Pulse-Response Problems (TA), October, p. 99

New-Generation Navigation Aids Use Digital Techniques to Enhance Performance (EU), December, p. 80

Simulation

Marconi Supplies Simulator to Finland (IR), May, p. 48

Simulator/Modulator Combination Simulates Multiemitter RF Environment (PF), June, p. 164

Gould Awarded Three Simulation Systems Contracts (WW), September, p. 46

MCS to Develop Channel Simulator (IR), October, p. 52

Solid State

Second-Generation Vortac Equipment Has Remote Maintenance and Monitoring Capabilities (EU), January, p. 144A

Digital Techniques and RF Solid-State Technology Improve Tacan and DME Equipment (EU), March, p. 80A

COMSAT Reports GaAs FET Advance (LN), September, p. 20

GE Expands GaAs R&D Capability (LN), October, p. 20

The 1985 IEEE GaAs IC Symposium Charts New Developments in the Field (SF), October, p. 111

TRW Granted Preliminary Injunction (LN), October, p. 1

GaAs Custom MMIC Foundry: The Right Tool for the Times (TF), November, p. 61

GaAs MMIC System and Subsystem Applications Require Special Design Considerations (TA), November, p. 79

Space

TIROS/DMSP Chosen for Planetary Missions (LN), January, p. 22

NASA Realigns Tracking Stations (WW), April, p. 43

Licensee Can Obtain Free Shuttle Launch (WW), May, p. 43

Harris Corp. Awarded Space Station Contracts (WW), June, p. 42

TRW Joins Rockwell for Space Station Work (LN), June, p. 19

RCA Wins Space Station Study (LN), July, p. 20

RCA Wins Study for Space Station (WW), August, p. 42

Fairchild Space Awarded $16.3 Million Contract (WW), September, p. 45

Teleport Licensed, Provides Service to Space Center (CN), September, p. 32

Europe's First Deep-Space Explorer Launched Successfully (CN), October, p. 32

Brazil Plans for Satellites (IR), November, p. 48

Contract Awarded for Thin-Film Research (BI), December, p. 35

Landsat Transferred to Private Sector (WW), December, p. 47

SatCom Insurance Faces Major Changes (BI), December, p. 35

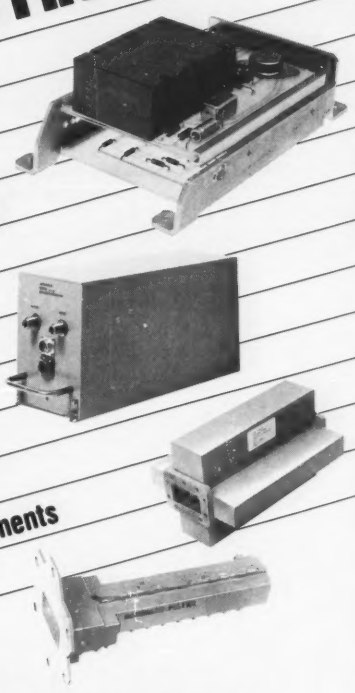
Tubes

RCA Americom to Switch to 45-Watt TWTAs on Satellites (CN), May, p. 30

High-Power Electron Tubes Designed for Modern Microwave Systems (CF), June, p. 68

Tubes Continue Delivering Microwave Power (TF), June, p. 62

The Premier Source: Microwave Filters



- Low VSWR
- Low Insertion Loss
- High Isolation
- Excellent Thermal Stability
- Low to High Power
- Aluminum or Brass
- L- to K-Band, and beyond
- Narrow- or Wideband
- Rugged Construction
- Low Noise
- Active and Passive Components
- Sharp Bandwidth Skirts

Premier Microwave Corporation's extensive facility is available to design, manufacture and test the most modern, sophisticated microwave components and sub-systems.

Qualified personnel are invited to send resume and salary requirement to Director of Personnel, Premier Microwave Corp., 33 New Broad Street, Port Chester, N.Y. 10573.

Write for information or send your specifications to:

PREMIER MICROWAVE CORP.

a subsidiary of Comtech, Inc.

33 New Broad St., Port Chester, NY 10573. (914) 939-8900

Designers and manufacturers of Rotary Joints, Ferrite Devices, Front Ends, Antennas and other microwave system components. Automated-computerized antenna test pattern facility available.

Circle Reader Service No. 57